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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Moris Dovek

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EXAMINER

DRAVININKAS, ADAM B

ART UNIT

PAPER NUMBER

2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/706,381	Applicant(s) DOVEK ET AL.	
	Examiner ADAM B. DRAVININKAS	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 4-10 rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US 6,791,793 B1).

Re. claim 4: Chen discloses a magnetic write head, having an air bearing surface (ABS), comprising:

directly on a substrate, a first layer (96) of high magnetic permeability material, having, on a first side, an edge whose surface is normal to said substrate and parallel to said ABS, that serves as a primary lower magnetic pole; (see fig. 7; col. 6 lines 6-23)

a first non-magnetic layer (98) that contacts said first layer of high magnetic permeability material only at said edge and extends away therefrom, said non-magnetic layer having a top surface that is coplanar with that of said primary lower magnetic pole; (see fig. 7; col. 6 lines 6-23)

a second layer (108) of high magnetic permeability material that serves as a secondary lower pole that fully covers and contacts said primary lower magnetic pole

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and said first non-magnetic layer, above which it serves as a ledge having a width; (see fig. 7; col. 8 lines 7-16)

a field coil (94) over, and insulated from, said primary and secondary lower poles; (see fig. 7; col. 5 lines 58-67)

an upper magnetic pole (90) that overlies said field coil, contacting said secondary lower pole at a second side that is opposite to said first side, and that is separated from said ledge at said first side by only a second layer of non-magnetic material that is a write gap, said upper magnetic pole having, at the write gap, a width equal to said ledge width, whereby it defines a track width;(see fig. 7; col. 5 lines 50-57)

said ledge extending away from said primary lower pole by an amount; and (see fig. 7)

said secondary lower pole having a thickness that remains unchanged over said secondary lower pole's entire length. (see thickness of 108) (see fig. 7)

Re. claim 5: Chen discloses said first layer (96) of high magnetic permeability material is NiFe, CoNiFe, and has a thickness between about 0.5 and 2.0 microns. (see col. 6 lines 7-24)

Re. claim 6: Chen discloses said non-magnetic layer (98) is aluminum oxide. (see col. 8 lines 8-16)

Re. claim 7: Chen discloses said second layer (108) of high magnetic permeability

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material is NiFe, CoNiFe, and has a thickness between about 0.5 and 2.0 microns. (see col. 6 lines 7-24)

Re. claim 8: Chen discloses said upper magnetic pole (90) is NiFe, CoNiFe, and has a thickness between about 0.3 and 3 microns. (see col. 5 lines 50-58, col. 6 lines 6-12)

Re. claim 9: Chen discloses said width is about 0.1 microns. (see col. 8 lines 55-65)

Re. claim 10: Chen discloses said amount that said ledge extends away from said primary lower pole is between about 0.1 and 1 microns. (see claim 19)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 2002/0080821).

Re. claim 4: Takano discloses a magnetic write head, having an air bearing surface (ABS), comprising:

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directly on a substrate, a first layer (10b) of high magnetic permeability material, having, on a first side, an edge whose surface is normal to said substrate and parallel to said ABS, that serves as a primary lower magnetic pole; (see fig. 14; para. 0079 and 0086)

a first non-magnetic layer (insulating layer which encapsulates coil 20) that contacts said first layer of high magnetic permeability material only at said edge and extends away therefrom, said non-magnetic layer having a top surface that is coplanar with that of said primary lower magnetic pole; (see fig. 14; para. 0087)

a field coil (20) over, and insulated from, said primary and secondary lower poles; (see fig. 14; para. 0087)

an upper magnetic pole (10a) that overlies said field coil, contacting said secondary lower pole at a second side that is opposite to said first side, and that is separated from said ledge at said first side by only a second layer of non-magnetic material that is a write gap (g1), said upper magnetic pole having, at the write gap, a width equal to said ledge width, whereby it defines a track width; (see figs. 12A-B, 14; paras. 0079, 0088)

said ledge extending away from said primary lower pole by an amount.

Takano fails to disclose or fairly suggest:

a second layer of high magnetic permeability material that serves as a secondary lower pole that fully covers and contacts said primary lower magnetic

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pole and said first non-magnetic layer, above which it serves as a ledge having a width;

said secondary lower pole having a thickness that remains unchanged over said secondary lower pole's entire length.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the lower pole of Takano by means of depositing two layers of uniform thickness rather than depositing one layer and then etching that layer.

It would have been an obvious matter of design choice, absent a statement of criticality, to make the lower pole out of two layers instead of one since the applicant has not disclosed that doing so solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well by being formed from one single layer.

Further, such a change would merely have been a separation of parts and it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Re. claim 9: Takano discloses said width is about 1 micron. (see para. 0049)

Re. claim 10: Takano discloses said amount that said ledge extends (t_2) away from said primary lower pole is about 0.5 microns. (see para. 0088)

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5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlov et al. (US 4,897,749).

Re. claim 4: Perlov discloses a magnetic write head, having an air bearing surface (ABS), comprising:

directly on a substrate (22), a first layer (25) of high magnetic permeability material, having, on a first side, an edge whose surface is normal to said substrate and parallel to said ABS, that serves as a primary lower magnetic pole; (see fig. 2)

a first non-magnetic layer (26) that contacts said first layer of high magnetic permeability material only at said edge and extends away therefrom, said non-magnetic layer having a top surface that is coplanar with that of said primary lower magnetic pole; (see fig. 2)

a field coil (16) over, and insulated (24) from, said primary and secondary lower poles; (see fig. 2)

an upper magnetic pole (14) that overlies said field coil, contacting said secondary lower pole at a second side (side farther from the ABS) that is opposite to said first side, and that is separated from said ledge at said first side by only a second layer of non-magnetic material that is a write gap, said upper magnetic pole having, at the write gap, a width equal to said ledge width, whereby it defines a track width;

said ledge extending away from said primary lower pole by an amount (see fig. 2)

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Perlov fails to disclose or fairly suggest:

a second layer of high magnetic permeability material that serves as a secondary lower pole that fully covers and contacts said primary lower magnetic pole and said first non-magnetic layer, above which it serves as a ledge having a width;

said secondary lower pole having a thickness that remains unchanged over said secondary lower pole's entire length.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the lower pole of Perlov by means of depositing two layers of uniform thickness rather than depositing one layer and then etching that layer.

It would have been an obvious matter of design choice, absent a statement of criticality, to make the lower pole out of two layers instead of one since the applicant has not disclosed that doing so solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well by being formed from one single layer.

Further, such a change would merely have been a separation of parts and it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Response to Arguments

6. Applicant's amendments to the claims have been entered. Applicant's arguments with respect to claims 4-10 have been considered but are moot in view of the new ground(s) of rejection above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM B. DRAVININKAS whose telephone number is

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(571)270-1353. The examiner can normally be reached on Monday - Thursday and Alt. Fridays 9:00a - 6:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrea L Wellington/
Supervisory Patent Examiner, Art
Unit 2627

May 22, 2009
/A. B. D./
Examiner, Art Unit 2627